



# The Resource

A Publication of the City of North Augusta  
Stormwater Management Department

## Winter is the best time to inspect drainage systems!

Many North Augusta businesses and residential subdivisions have stormwater ponds that need maintenance. All stormwater from these ponds eventually end up in our streams and the Savannah River. Keeping ponds, parking areas and the drains free of debris and chemicals is important throughout the year. A good practice is to do a winter inspection and winter maintenance of the system to keep water moving without carrying bad things along with it to our streams. It is safer working in the winter because you avoid the extreme heat and humidity of summer and all that comes with it

including snakes. Winter naturally creates a die back of weeds and vegetation so many wild critters leave the area in colder weather. Stinging and biting insects such as mosquitos are less prevalent also. Do be cautious though, wasps and yellow jackets may be present. So it is a good time to conduct inspections of your drainage systems and if maintenance is needed, always wear protective clothing.

**Business Owners:** If you own a business, you or the property owner are responsible for maintaining the system. This could include a

stormwater pond or retention area, parking areas and other paved areas, and the stormwater inlets and piping that are on your property. Taking a walk around your business looking at where the stormwater flows and eventually ends up is as important as making sure the roof does not leak and the heating and cooling works properly. So do an annual inspection of your system and make sure that if there are problems found, that they get repaired. The city conducts inspections of storm systems too, and requires them to be working properly.

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This outlet is clear and free of debris and vegetation.

### Importance of Inspecting Storm Pond Outlet Boxes



This outlet has a tree growing in front of *and within* the outlet pipe. The top grate is also covered. This pond could overflow from a clogged outlet pipe and result in a catastrophic dam failure.

**Maintenance costs:** Now \$50 - \$500 After Failure \$15,000.00 or more

## Inspecting drainage systems (continued)

**Residents:** Residential neighborhoods also have stormwater detention ponds and associated drains and piping. In some cases, a homeowners association owns and maintains the stormwater pond in a neighborhood. If you are a member of a homeowners association, this is a good topic to bring up at a meeting. Ask about who owns stormwater ponds and find out who (if anyone) is conducting those important annual inspections of your ponds and piping. Who is cleaning and maintaining them?

**What to observe during inspection:** Several important areas should be addressed when inspecting and maintaining your stormwater systems.

- Make sure that the stormwater inlets are free and clear so that water can enter the ponds and pipes.

- Make sure that the outlet is free and clear. If the outlet pipe is blocked by trees or debris, then your pond could backup and overtop destroying the embankment. Repairing that can cost four times as much as it costs to simply clear the blockage.
- Check and make sure grates on top of storm pond outfalls are clear.
- If you find problems such as sink holes, broken piping, excessive erosion on the banks, or clogged drain lines, they must be repaired.
- We have noticed that some businesses have stored chemicals outside or have oil/grease containers located outside for pickup by a vendor. Make sure they are not leaking, are far from storm drains, and that employees are careful not to spill contents on the ground when dumping into them.
- Dams should be inspected for erosion, good ground cover,

and to see if any water is standing or leaking from the soil on the back of the dam. If you find these problems, a professional should be contacted to do a complete inspection.

- Look at the pond outfall to the stream, look for signs of pollutant impacts like trash, oil stains, or unusual odors.

If you have questions, don't hesitate to contact us at (803) 441-4246. Every effort to keep our streams clean benefits all of us and the critters that live in them.



Containers left open and outside

## Pretty Run Creek – Our TMDL Stream

During 2015 and 2016, the city began another phase of the stormwater program that is required by SC. We began official stormwater monitoring of the Pretty Run sub basin in North Augusta. Pretty Run Creek is a stream that runs from Five Notch Road, through Knollwood and on to Lynhurst Subdivision, then it travels along the Greenway by Bolin Road where it ends up crossing Martintown Road traveling through Rapids Subdivision and on to Savannah River.

Pretty Run Creek is a Total Maximum Daily Load (TMDL) stream. What this means is that the stream was at one time listed on the State 303d List of Impaired streams in SC. The impairment or "pollutant of concern" for

Pretty Run Creek is *Fecal coliform* bacteria. *Fecal coliform* is commonly found in human and animal wastes. It is normal for the bacteria to exist in the environment, but there are certain levels that are expected and others that indicate a problem could exist from a sewer line rupture or septic tank overflow. The only way to remove a stream from the list is to create a TMDL. A TMDL is a plan approved by the Environmental Protection Agency (EPA) and the state of SC that is used by cities or other groups to identify and limit the bacteria entering the stream as best as possible. We have to abide by the plan and come up with ways to make sure we don't make the problem worse, and do our level best to make it better.

How does a stream become a TMDL Stream? When the state pulls a stream's water sample, the sample is analyzed for many types of pollutants. Bacteria is one them. In SC, *Fecal coliform* bacteria levels have a limit of 400 colonies per 100 milliliter (col/100 ml) on a given day. If you look at bacteria results for every sample that is pulled over a time period (for instance 12 months) and more than 10% of the samples are higher than 400 col/100 ml, the stream is required to be listed as impaired (polluted so to speak) and placed on the state 303d list. All streams on the 303d list must stay on the list until (1) it is proven by sampling that the pollutant is no longer out of range or (2) a TMDL must be prepared and approved for that stream. If the second option



is how the stream gets off of the list, then the stream is deemed a TMDL stream. This puts legal limits on bacteria concentrations allowed to enter the stream. The process requires local communities with stormwater programs to focus on the stream and to take certain action to improve conditions.

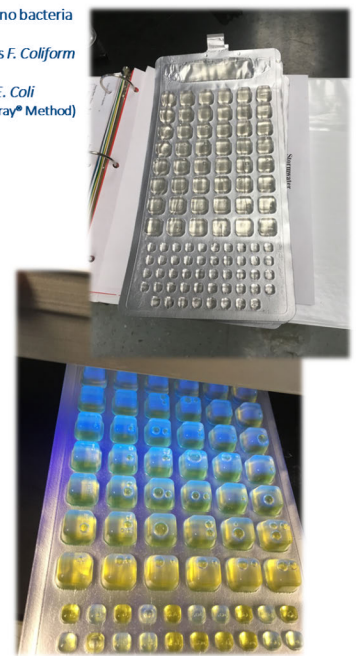
Having a TMDL means things must be done. Pretty Run's TMDL establishes that bacteria entering the stream should be reduced by 30% where possible. To know if it is being reduced, you must be aware of how it gets in. Also, a new lower limit for *Fecal coliform* bacteria was established by the TMDL. The new limit is 340 (col/100 ml) for Pretty Run. To learn more you can download the TMDL for Pretty Run from the city website [www.northaugusta.net](http://www.northaugusta.net) at the Stormwater Management's Natural Resources web page.

The monitoring data we are collecting will be used to determine if stormwater may be bringing more bacteria to the stream or if there are specific sources like a leaking septic tank or sewer line. Once we get all of the monitoring data completed and reviewed, we will begin to look at ways to fix the problems including; using devices to filter stormwater such as vegetated wetlands, or if we find a leaking septic tank, working with owners to get it repaired.

Education is one of the most effective BMPs. Understanding the issue gives residents the ability to reduce potential sources on their property. This important project requires all of us to be aware of our activities at home that may cause impacts to the stream. If you or a group would like to participate in this project, contact our office at (803) 441-4246 or email [tstrickland@northaugusta.net](mailto:tstrickland@northaugusta.net).

#### Testing For Bacteria in Stormwater

Clear is no bacteria  
Yellow is *F. Coliform*  
Blue is *E. Coli*  
(Quantitray® Method)



North Augusta Water Plant staff analyze stormwater samples for bacteria.

## Stormwater – Getting our House in Order and yours too

City staff are always working outdoors trying to maintain the city in good working order. There are men and women working on different crews doing various jobs throughout the city such as Streets & Drains, Utility Service, Sanitary



Spills not cleaned up promptly can wash into streams

Sewer, Sanitation, Public Safety, Property Maintenance, Parks & Recreation, and others too. All of these workers receive training on stormwater pollution prevention in some format annually. We want everyone to consider the health of our streams and creeks in the community, including city workers.

It is essential that city personnel mind their stormwater p's & q's, just as the citizens should. In addition to the staff being trained to consider their daily activities' impacts to storm drains, all city owned facilities needed to be inspected for problems. During 2015 and 2016, the city conducted a city-wide stormwater assessment of all of its owned properties. That includes inspections of all buildings, parks, parking lots, trails, water tanks, pump stations, storage buildings, laydown yards and city owned ponds. It was a lot of work.

During the assessments, it was discovered that there were a few areas where we needed to do a better job. We found some infrastructure that needed repair such as erosion on some of our properties and some damaged storm drains and outfalls. In other instances, we found storage problems such as the storage of paints outside where rainfall can reach them. There were some general housekeeping issues that needed to be addressed also. Conducting the assessments revealed that we all need stop once in a while and look around. There may be stormwater problems that we never even considered.

The city's in-house assessment experience reminds us to stop and look more closely at our own property and activities. We highly recommend that each resident conduct their own assessment of their property with stormwater

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## Getting our House in Order *(continued)*

in mind. Take 30 minutes to walk around and just look for the following issues or problems:

- Look for chemicals or bins of materials that are stored outside and exposed to rainfall. If they are, then find a way to cover them or move them into a covered area.
- Make sure old piles of rubble are removed from your property. Many times, there are things in a pile that could pollute a waterway. Old cans of paint or

chemical containers such as a bag of fertilizer that you don't see could be leaking underneath the pile.

- Make sure to properly dispose of used oil and fuels properly. A jug of old waste oil sitting out back by the shed can leak and impact our streams. The same goes for fuel cans that have rusted. Put them in the shed or under a cover. Then make sure to bring it to the Stormwater Department's annual **Household Hazardous Waste Collection Event** in May of each year. We will take all that old waste and dispose of it for you. The next event is **May 20, 2017 at the**

**Kroger parking lot on Knox Avenue 10 a.m. – 1 p.m.** Mark your calendar right now.

- If you see drains in your yard that are clogged or broken, call us and we can have them looked at more closely.
- Have your septic tank inspected if you have one. Leaking septic tanks are a number one problem for our streams. If you want to consider getting rid of that tank and connecting to the city sewer, give us a call so we can determine if that is possible. That would be a good permanent solution to that problem.

## EVENTS & ACTIVITIES YOU DON'T WANT TO MISS

### Contractors Stormwater Workshop

**November 11, 2016 from 11 a.m. - 2 p.m.** – North Augusta Community Center. Registration required. Contact 803-441-4246 to register, or go online to [northaugusta.net/stormwater](http://northaugusta.net/stormwater).

### Christmas in the Back Country

**November 26, 2016** – Living History Park. Contact [www.colonialtimes.us](http://www.colonialtimes.us) or the Old Town Preservation Association for more information (803) 979-9776.

### North Augusta Christmas Tree Lighting Ceremony

**November 29, 2016 at 5 p.m.** – John C. Calhoun Park & Lookaway Hall, Carolina & Georgia Avenue.

### Christmas for the Birds

**December 3, 2016** – Living History Park. Contact [www.colonialtimes.us](http://www.colonialtimes.us) or the Old Town Preservation Association for more information (803) 979-9776.

### Stormwater Management – For Homeowners & Homeowners Associations

**December 8, 2016, 6:30 at 8 p.m.** – North Augusta Community Center. Learn important maintenance & helpful ideas to maintain your yard and gardens with stormwater in mind. Learn more by visiting the North Augusta website calendar. To register, call or email: (803) 441-4246 or [tstrickland@northaugusta.net](mailto:tstrickland@northaugusta.net)

### Lions Club Christmas Parade

**December 11, 2016 at 2 p.m.** – Georgia Avenue. Contact the North Augusta Lions Club or pick up a registration form at the North Augusta Chamber of Commerce located at 406 West Avenue. (803) 279-2323.



For additional information contact:  
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